Learning

Movement in the Workplace

The truth is sitting isn't killing us, sitting in poor postures for long periods with little movement and few breaks for standing or walking can impact our health and reduce our productivity.

Read 20 minutes

The latest research confirms that sitting smart, when combined with standing and walking options, can have a big impact on worker wellness and productivity.

Three recent American studies performed by Marc T. Hamilton (2007), Pedersen (2009) and Stephens (2010) have shed new light on the relationship between long periods of sedentary behavior and pervasive health problems such as weight gain, metabolic syndrome and diabetes. While these studies inspired sensational media coverage warning consumers “sitting is killing us,” such headlines misstated the findings. The studies looked at many variables that negatively impacted peoples’ health but did not isolate the adverse relationship between sitting and poor health. The researchers didn’t explore specific health outcomes of long-term behaviors, nor did they cite a single behavior that contributed to ill health more than others—there was no smoking gun.

The truth is, sitting isn’t killing us. But as this paper will demonstrate, sitting in poor postures for long periods with little movement and few breaks for standing or walking can impact our health and reduce our productivity. “This isn’t just theory,” said Ken Tameling, General Manager, Seating for Steelcase. “We know from the cumulative weight of research and evidence gleaned from the workplace that these issues can have a significant negative impact on worker wellness and an organization’s bottom line. Conversely, by offering workers the information and products they need, we can have a positive impact.”

THE BACKGROUND: A LOOK BACK SHOWS THAT LACK OF MOVEMENT HAS ALWAYS BEEN A SOURCE OF HEALTH CONCERNS FOR WORKERS

For centuries, researchers have known there was a link between sedentary workers and health problems. In 1700, for example, an Italian physician, Bernardino Ramazini, observed that tailors, who sat as they worked, were not as healthy as messengers, who walked while they worked. Generations later, a landmark British study published in 1953 in The Lancet (Vol. 262, No. 6796) showed that cardiovascular disease was less frequent and less severe among bus conductors and postmen than it was among bus drivers and telephone operators, who were more sedentary.

For the recent studies, Hamilton and the others focused on how biological systems functioned, measuring the regulation of blood glucose levels and metabolism differences of animals and humans engaged in sedentary behaviors (durations of physical inactivity) compared to those who experienced common levels of activity during waking hours. The results added new weight to what has become common knowledge since the days of Ramazini: that inactivity at work and at home can have a significant negative impact on human physiology. A palette of posture and place allows workers to change positions, stay engaged and stay well.

The research findings support the idea that movement during the day while sitting, walking or standing, is critical to maintaining wellness—through everything from fewer repetitive motion injuries to reduced weight gain—fostering greater concentration and engagement and boosting productivity. (Amick et al., 2003).

Experts such as Donald D. Harrison (Donald D. Harrison, DC, PhD, et al., 1999) know there is no one best posture. Rather, changing postures is the key.

Steelcase believes offering a palette of place and posture, can help keep workers in motion. Doing so will help boost performance and wellness even as it helps offset some of the damage done by the sedentary lifestyles many workers embrace during non-work hours. Since sedentary behavior is an independent risk factor for increased rates of illness (Katmarzyk PT, Church TS, Craig CL, Bouchard C., et. al., 2009), the result can mean fewer hours lost to sick workers. More important, it can help employees become more engaged and more productive throughout the work day.

Sit, stand, walk is a specific philosophy that Steelcase uses to keep workers moving. Workplaces that embrace this philosophy provide height adjustable workstations, low speed treadmills, convenient temporary workspaces away from dedicated workstations, and healthy “Alive Seating.”

THE IMPORTANCE OF BEING SEATED

Many office tasks are best performed while seated. For instance, workers performing keyboard data entry or word processing tend to complete those tasks more efficiently and more accurately while seated.

Sitting also offers a vital rest benefit, particularly for workers who must spend long periods on their feet. By shifting the load to different muscle groups, it allows the large muscles in the legs and the support muscles in the back to rest. Sitting shouldn’t be static. And it typically isn’t. Seated workers use tiny amounts of energy and they fidget every 40 to 50 seconds (Dunk, 2010), moving their legs and feet, reclining and sitting upright, shifting their weight on the seat pan and flexing and extending the upper and lower back (Vargara, 2002). Sitting is also often regularly interrupted by activities such as walking to the printer or rest room, getting coffee or water, and attending meetings.

The key is healthy motion, even while seated. The challenge is that many workers are sitting in chairs that don't encourage healthy spinal motion. When a user reclines, the upper spine wants to arch backward, while the lower spine wants to arch forward. Yet most chairs don't mimic this motion. When reclining in a typical office chair, a gap is created in the lower back area. The user then compensates by letting the lower spine arch backward and sag, instead of having a healthy forward arch. Lower back sag results in a hunched posture, which weakens the walls of the discs, stresses back ligaments and causes deterioration of the spine.

So the problem isn't that workers sit, it's how they sit. And what they choose to sit on. A good chair should mimic the user's natural spinal motion, not move in the opposite way the spine wants to move! By offering employees only high quality, ergonomically advanced task chairs, and by training those employees to use the chairs effectively, employers can design a significant portion of the risk out of the work environment. Such chairs allow a full range of postures and healthy spinal motion. And they're well worth the investment companies make in them. One study designed to measure the effects of using a supportive adjustable c hair and ergonomics training (Amicket al., 2003) found that participants using the Steelcase Leap chair reported less d is comfort than the control group and that the formation of discomfort slowed over the day—workers stayed comfortable longer. Comfortable workers are less distracted and less fatigued —more productive— than their counterparts. These same workers had up to a 17.8 percent increase in productivity.

It should also be noted that the recline posture can actually be healthy for you. Be careful, however. When seated employees recline, they should be able to maintain a healthy posture within a natural vision and reach zone in relation to the worksurface. For example, if workers can't comfortably reach or see their monitors or laptops comfortably, they may not take advantage of their chairs' reclining feature, and they will remain in a relatively static upright posture. Or if they do recline, they may move too far away from their work, creating awkward postures that can lead to neck, shoulder or vision issues.

SOMETIMES YOU NEED TO TAKE A STAND

The perils of remaining in a sitting posture for long periods, day after day, are clear. The benefits of changing postures— including improved focus, engagement and wellness—are also clear. Standing at work offers a break from sitting, helps offset some of the problems that can result from prolonged sitting and ensures employees stay in motion. Given the findings of Hamilton and the others, those benefits alone are incentive for employees to spend portions of the work day standing, whether meeting in a common area or working at height- adjusted worksurfaces.

Just one hour each day spent standing can help workers burn extra calories, and maintain or renew their energy levels and focus. And worksurfaces that adjust easily from sitting to standing positions eliminate the need for workers to leave their tasks when they need a break from their chairs, keeping them more productive throughout the day.

WHY WALKING IS PLAYING A BIGGER ROLE IN THE WORKPLACE

Modern medicine continues to confirm Ramazini's study of messengers and tailors. Motion is healthy. Steelcase has embraced this and has optimized solutions to support movement through workspaces that encourage walking meetings and that offer height adjustable worksurfaces equipped with low-speed treadmills. When used for tasks suited to standing, such meetings and workstations not only allow employees to move during the day, they enable them to keep working as they walk—a boost to productivity.

Offering a way to walk and work can wake up a worker's metabolism and have a positive impact on overall health. According to research by the developer of the treadmill workstation, James Levine, MD, PhD, workers can burn an average of 120 more calories per hour walking, at one mile per hour, on the treadmill than they will burn while seated.

Of the 45 employees who volunteered for Dr. Levine's study, 18 were studied for weight loss and other changes. The participants:

- Lost an average of 8.8 pounds, 90 percent of which was fat
- Decreased their triglyceride levels an average of 37 percent

WHAT EMPLOYEES DON'T KNOW, COULD HURT YOU. TRAINING TODAY'S MOBILE WORKERS IN THE ART OF SIT, STAND AND WALK

Offering many seating options sounds like a great way to keep everyone happy, right? Not always. One of the challenges in offering workers choices is that they may make the wrong ones. For instance, an employee may enjoy working in a certain type of chair, even if it's inappropriate for the task. By giving too much latitude, too much freedom of choice, employers may find themselves back in the predicament they started in: with uncomfortable workers that are not encouraged to move.

Effective employee education and training is critical not just in chair selection, but also in the effective use of chair features, as well as in the utilization of height adjustable work surfaces and those equipped with treadmills. All too often, companies invest in products that should improve wellness and worker engagement only to have the chairs, worksurfaces and treadmills used ineffectively, incorrectly or infrequently.

Training and education are made even more critical by the realities of today's workplace. Workers are mobile. Armed with smartphones and laptops, they can be on the move. But while the benefits of such movement are clear, so are the risks. Access to treadmills and height-adjustable worksurfaces doesn't stop deadline-driven employees from spending five hours each day huddled together in a conference room, hunched over computers on their laps, interrupted by stints of texting and emailing on handheld devices.

Employers must be prepared to educate employees on the available choices, and on how to make the right ones. Employees bear a responsibility too. The good news is, technology has freed them from the cubicle. The bad news is, they can still sit poorly at an improperly adjusted worksurface. Workers must become more aware of the options available to them and, as they move throughout the day, they must learn how to choose their postures and places wisely. Employers can leverage the physical space and options they've made available to increase employee accountability on such issues. In turn, employers should tie the use of sitting, standing and walking options to bigger organizational goals.

THE BENEFITS OF A COMPREHENSIVE APPROACH: ACTIVE, ALERT, ENGAGED WORKERS

There are obvious, tangible benefits to offering workers the means to move between postures and workspaces throughout the day:

- High-quality, task-specific, seating options reduce employee fatigue and repetitive- motion injuries.
- Reduced injuries and fatigue mean more time on the job, improved daily job performance and lower healthcare costs.
- Allowing employees to walk or stand while working reduces the need to leave their work, keeping them on task and helping to boost productivity.

When companies use a Sit, Stand, Walk strategy, they also address a fundamental problem facing all employers. Not coincidentally, it's the problem that sparked the media storm surrounding the latest research findings: today's workers are heavier and less healthy than workers of the past. That's because they're not just sedentary at work; they're sedentary at home. By providing Sit, Stand, Walk options, and the training to use them properly, employers can begin to foster a new level of worker accountability for moving throughout the work day.

With the right products and training, workers achieve the balance of postures they need, while also beginning to address the obesity and health issues that can drive up healthcare costs. Studies have found that even modest weight loss or weight stabilization due to an increase in physical activity can translate into significant health and economic benefits.

The Sit, Stand, Walk strategy also offers intangible benefits. By contributing to a higher level of wellness, it can enable workers to feel more positive about the work environment. It can help a company's brand, making it more appealing to potential employees. The result can be workers who not only feel better; they also are more engaged with their work and their peers. Ultimately, that leads to a stronger organization, overall.

AN EFFECTIVE PRESCRIPTION FOR A HEALTHY WORK DAY

- Sit in a well-designed, ergonomically advanced chair that allows a full range of healthy postures for part of the day.
- Stand at a height adjustable worksurface for between 1.5 hours and two hours per day.
- Walk and work for part of the day.

WHY SITTING IS AN IMPORTANT PART OF THE DAY

- Reduces standing fatigue.
- Transfers upper body load to the chair.
- Stabilizes the upper body, making it the most-effective posture for keyboarding, mouse use and viewing a computer display.

THE FOUR FOUNDATIONAL PRINCIPLES TO GOOD SEATING DESIGN

- Every person’s spine is different. The chair back should change shape and mimic each person’s unique spinal motion.
- The upper and lower spine move differently when reclining, and the chair back must move accordingly.
- The upper and lower backs require different types and amounts of support.
- Workers must maintain a comfortable, ergonomically sound orientation to work, no matter their posture (e.g. upright or reclined). Vision and reach should not be compromised in the chair’s design.

THE VALUE OF STANDING

- Increases blood flow and reduces the likelihood of Deep Vein Thrombosis (DVT).
- Burns calories.
- Offers a break from sitting, reducing the static load.
- Refreshes and re-energizes.
- Offers biomechanical benefits, including improvement of metabolic function after eating.

THE REWARDS FOR WALKING AT WORK

- Reduces static load.
- Increases blood flow
- Improves metabolic function

IT’S ABOUT THE WAY WE SIT

Sitting doesn’t kill. Poor sitting, too much sitting, and poorly designed seating can contribute to worker discomfort, health problems, and low productivity. Workers seated in poorly designed chairs can be:

- Less focused on their work and more focused on their discomfort.
- Relatively fine today, but causing medium- to long-term health issues that will arise later (deep vein thrombosis, low back pain, and other ergonomic injuries to necks, arms, and backs)

If they’re sitting in chairs that fit their bodies and that are appropriate to their tasks, the workers can:

- Move in a range of healthy postures while they work.
- Stay oriented to their work, whatever their posture.

- Stay engaged and focused on their tasks.

By offering workers a range of ergonomically sound seating options, organizations can encourage workers to move between the options throughout the work day, choosing the chairs whose features best suit their tasks.

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